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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/710,837	11/14/2000	Yoshiko Miyamoto	1341.1071 (JDH:MJH)	5630

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EXAMINER	
DUONG, THOMAS	
ART UNIT	**PAPER NUMBER**
2145	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/710,837	MIYAMOTO, YOSHIKO	
	Examiner	Art Unit	
	Thomas Duong	2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is in response to the Applicant's Amendment filed on December 21, 2006. Applicant amended *claims 1 and 5-8. Claims 1-10* are presented for further consideration and examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. *Claims 1-10* are rejected under 35 U.S.C. 103(a) as being unpatentable over Glass et al. (US006629128B1), in view of Howes et al. (US006324177B1), and further in view of Dugan et al. (US006425005B1).

4. With regard to *claims 1 and 5-8*, Glass discloses,

   - *a request receiving unit which receives a request from an apportioning server, initially sent by a client connected via a network, to acquire an object reference for receiving a distribution of a naming service in CORBA,* (Glass, col.1, lines 32-46; col.2, line 60 – col.3, line 13; col.3, lines 46-51; col.4, lines 8-12, lines 43-46;

col.6, lines 31-35, lines 39-47, lines 51-54; col.7, lines 56-61; col.10, lines 48-59; fig.3-4)

Glass discloses, *"the present invention also dynamically generates remote proxies and other objects to provide communications across the network"* (Glass, col.4, lines 43-46). In addition, Glass discloses, *"the remote proxy generator resides in the server-side object request broker and instantiates the remote proxy class to create a remote proxy object"* (Glass, col.4, lines 8-10) and that *"a system constructed using the principles outlined in this patent application dynamically generates remote proxy classes as needed at run-time"* (Glass, col.6, lines 51-54). Hence, Glass teaches of a system for distributed processing in a computer network that dynamically generates remote proxies and other objects to provide communications across the network.

- *a generating unit which generates, dynamically, the object reference of the naming service in a hot standby environment by dynamically setting address information contained in the object reference in accordance with connection information at a time of the request.* (Glass, col.1, lines 32-46; col.2, line 60 – col.3, line 13; col.3, lines 46-51; col.4, lines 8-12, lines 43-46; col.6, lines 31-35, lines 39-47, lines 51-54; col.7, lines 56-61; col.10, lines 48-59; fig.3-4)

  Glass discloses, *"the present invention also dynamically generates remote proxies and other objects to provide communications across the network"* (Glass, col.4, lines 43-46). In addition, Glass discloses, *"the remote proxy generator resides in the server-side object request broker and instantiates the remote proxy class to create a remote proxy object"* (Glass, col.4, lines 8-10) and that *"a system constructed using the principles outlined in this patent application*

dynamically generates remote proxy classes as needed at run-time" (Glass, col.6, lines 51-54). Hence, Glass teaches of a system for distributed processing in a computer network that dynamically generates remote proxies and other objects to provide communications across the network.

However, Glass does not explicitly teach,

- *a request receiving unit which receives a request from an apportioning server, initially sent by a client connected via a network, to acquire an object reference for receiving a distribution of a naming service in CORBA,*
- *wherein the apportioning server has determined whether an arrival IP address is an apportioning IP address, and if the result is negative, establishes a connection with the arrival IP address, and if the result is positive, distributes a load to a server having a lightest load in comparison with other servers; and*

Howes teaches,

- *a request receiving unit which receives a request from an apportioning server, initially sent by a client connected via a network, to acquire an object reference for receiving a distribution of a naming service in CORBA,* (Howes, col.3, lines 7-47; col.9, line 64 – col.11, line 14; fig.1, 5)

  Howes discloses, *"in a step 502, the Local Director checks whether a connection object exists. This is done by matching the source and destination IP addresses and port numbers of the packet with the foreign and virtual IP addresses and port numbers stored in a connection object"* (Howes, col.9, line 65 – col.10, line 3). In addition, Howes discloses, *"if a connection object exists, control is transferred to a step 504 and the packet is handled according to the information found in the*

connection object" (Howes, col.10, lines 15-18). Hence, Howes teaches of a Local Director (i.e., apportioning server), which handles an incoming packet.

- *wherein the apportioning server has determined whether an arrival IP address is an apportioning IP address, and if the result is negative, establishes a connection with the arrival IP address, and if the result is positive, distributes a load to a server having a lightest load in comparison with other servers; and* (Howes, col.3, lines 7-47; col.9, line 64 – col.11, line 14; fig.1, 5)

  Howes discloses, *"if no connection object exists, control is transferred to a step 506 and the Local Director checks whether the packet is a SYN packet"* (Howes, col.10, lines 19-21). In addition, Howes discloses, *"if the packet is a SYN packet then control is transferred to a step 510 and it is checked whether the source IP address matches a Client specified in one or more Bind ID objects. If the source address does match one or more Bind ID objects, then control is transferred to a step 512"* (Howes, col.10, lines 25-36), where the virtual machine is determined. Ultimately, according to Howes, *"once the virtual machine is selected, the connection is assigned to one of the physical machines that is bound to the virtual machine using a load balancing scheme such as is described in [Load Balancing Application]. Some of the load balancing schemes used may include distributing new connections to the physical machine with the fewest connections, to the physical machine with the fastest measured response time, or the a physical machine chosen in a round robin or weighted round robin fashion"* (Howes, col.10, lines 37-45). In addition, Howes discloses, *"if the destination IP address and port do not match a virtual machine then control is transferred to a step 516 and the connection is assigned to a virtual machine with*

a Bind ID of 0. Also, if in step 510, the source IP address does not match one or more Bind ID objects, then control is also transferred to step 516 and the connection is assigned to a virtual machine with a Bind ID of 0... Thus, it has been shown that a new connection may be assigned to a specific instance of a virtual machine based on the assignment of that virtual machine to certain Client IP address" (Howes, col.10, lines 50-61). Hence, Howes teaches of assigning an incoming connection request based on the client machine's IP address.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Howes with the teachings of Glass to provide a technique for communicating with remote server objects when a client application does not know the location of the server object and the communication protocol used by the server object. In addition, according to Howes, *"what is needed, therefore, is an apparatus and method for assigning connections using load balancing and also for providing access to differ\rent groups of servers or ports based on the identity of the outside entity attempting to establish a connection. Such a system would could ideally integrate load balancing of connections among a group of web servers with discriminating between Clients based on the identity of the Client or the behavior of the Client"* (Howes, col.2, lines 56-63). In addition, Glass discloses, *"this invention relates in general to the field of software systems, and more particularly to an improved system and method for distributed processing in a computer network"* (Glass, col.1, lines 6-8) and that *"a need has arisen for a system and method for distributed processing in a computer network that provides communications between objects distributed across the network"* (Glass, col.3, lines 62-65).

However, Glass and Howes do not explicitly teach,

- *a generating unit which generates, dynamically, the object reference of the naming service in a hot standby environment by dynamically setting address information contained in the object reference in accordance with connection information at a time of the request.*

Dugan teaches,

- *a generating unit which generates, dynamically, the object reference of the naming service in a hot standby environment by dynamically setting address information contained in the object reference in accordance with connection information at a time of the request.* (Dugan, col.5, line 66 – col.6, line 51; col.25, lines 28-63; col.29, line 33 – col.30, line 11)

  Dugan teaches of at the time *"that there is a failure in the node cache database, or, when the hot cache 771a is currently unavailable to receive further updates, the system switches from the hot cache 771a to the standby cache 771b which then functions as a hot cache"* (Dugan, col.25, lines 47-50). In addition, Dugan teaches that *"once an active instance of S2 has been selected, the object reference for that S2 instance is returned to NT ... [where it] effectively translates the logical name S2 to an object identifier for the selected instance of S2... The object identifier includes an IP address, port, and other information identifying the physical location of the object instance"* (Dugan, col.29, lines 47-55). Hence, Dugan teaches of utilizing a naming service in a hot standby environment.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Dugan with the teachings of Glass to provide a technique for communicating with remote server objects when a

client application does not know the location of the server object and the communication protocol used by the server object.

5. With regard to *claims 2-4*, Glass, Howes, and Dugan disclose,

- *wherein said generating unit generates the object reference by setting at least the arrival address information contained in the connection information as the address information.* (Glass, abstract; col.1, lines 32-46; col.2, line 60 – col.3, line 35; col.4, lines 29-38; fig.1-4; Dugan, col.5, line 66 – col.6, line 51; col.25, lines 28-63; col.29, line 33 – col.30, line 11)
- *said object reference generating device comprising a system structure information control unit which controls system structure information showing a structure of a system in which an object reference is applied, wherein said generating unit generates the object reference by dynamically setting address information conforming to the structure of the system based on the system structure information.* (Glass, abstract; col.1, lines 32-46; col.2, line 60 – col.3, line 35; col.4, lines 29-38; fig.1-4; Dugan, col.5, line 66 – col.6, line 51; col.25, lines 28-63; col.29, line 33 – col.30, line 11)
- *wherein said system structure information shows at least a structure of a load distribution system and a hot standby system.* (Glass, abstract; col.1, lines 32-46; col.2, line 60 – col.3, line 35; col.4, lines 29-38; fig.1-4; Dugan, col.5, line 66 – col.6, line 51; col.25, lines 28-63; col.29, line 33 – col.30, line 11)

6. With regard to *claims 9-10*, Glass, Howes, and Dugan disclose,

- *wherein the generating unit generates the object reference of the naming service in a load distributed environment.* (Glass, col.3, lines 46-51; col.4, lines 8-12, lines 43-46; col.6, lines 31-35, lines 39-47, lines 51-54; col.7, lines 56-61; col.10, lines 48-59; fig.3-4)
- *wherein the object reference of the naming service is generated in a load distributed environment.* (Glass, col.3, lines 46-51; col.4, lines 8-12, lines 43-46; col.6, lines 31-35, lines 39-47, lines 51-54; col.7, lines 56-61; col.10, lines 48-59; fig.3-4)

Response to Arguments

7. Applicant's arguments with respect to *claims 1 and 5-8* have been considered but they are not persuasive.

8. With regard to *claims 1 and 5-8*, the Applicant point out that:

- *Glass requires the use of both a client-side object request broker and a server-side object broker, which combination is not required by the present claimed invention. Independent claims 1, 5, 6, and 7 of the present invention do not recite the use of a client-side object request broker (see, e.g., FIG. 1).*

However, the Examiner finds that the Applicants' arguments are not persuasive because the Applicant claims, *"a request receiving unit which receives a request from an apportioning server, initially sent by a client connected via a network, to acquire an object reference for receiving a distribution of a naming service in CORBA"* (claim 1). Hence, the Applicant explicitly claims *"a client-side object request broker"* which clearly contradicts with the current argument presented above.

9. With regard to *claims 1 and 5-8*, the Applicant point out that:

- *It is respectfully submitted that Glass's use of a remote proxy system is different from the present invention's dynamic generation of a naming service and dynamic setting of address information into the object reference. Hence, Glass teaches away from the present invention.*

However, the Examiner finds that the Applicants' arguments are not persuasive because Glass discloses, *"the present invention also dynamically generates remote proxies and other objects to provide communications across the network"* (Glass, col.4, lines 43-46). In addition, Glass discloses, *"the remote proxy generator resides in the server-side object request broker and instantiates the remote proxy class to create a remote proxy object"* (Glass, col.4, lines 8-10) and that *"a system constructed using the principles outlined in this patent application dynamically generates remote proxy classes as needed at run-time"* (Glass, col.6, lines 51-54). Hence, Glass teaches of a system for distributed processing in a computer network that dynamically generates remote proxies and other objects to provide communications across the network.

10. With regard to *claims 1 and 5-8*, the Applicant point out that:

- *Howes does not teach or suggest dynamic generation of a naming service and dynamic setting of address information into the object reference wherein load balancing is taking place, as is disclosed in amended independent claims 1, 5, 6, 7, and 8 of the present invention. Howes instead teaches a method and apparatus for managing connections based on client IP address (see Abstract,*

Howes). Hence, Howes teaches away from the present invention, and it would not have been obvious to combine Howes with Glass.

However, the Examiner finds that the Applicants' arguments are not persuasive because Howes discloses, *"in a step 502, the Local Director checks whether a connection object exists. This is done by matching the source and destination IP addresses and port numbers of the packet with the foreign and virtual IP addresses and port numbers stored in a connection object"* (Howes, col.9, line 65 – col.10, line 3). In addition, Howes discloses, *"if a connection object exists, control is transferred to a step 504 and the packet is handled according to the information found in the connection object"* (Howes, col.10, lines 15-18). Hence, Howes teaches of a Local Director (i.e., apportioning server), which handles an incoming packet. Howes discloses, *"if no connection object exists, control is transferred to a step 506 and the Local Director checks whether the packet is a SYN packet"* (Howes, col.10, lines 19-21). In addition, Howes discloses, *"if the packet is a SYN packet then control is transferred to a step 510 and it is checked whether the source IP address matches a Client specified in one or more Bind ID objects. If the source address does match one or more Bind ID objects, then control is transferred to a step 512"* (Howes, col.10, lines 25-36), where the virtual machine is determined. Ultimately, according to Howes, *"once the virtual machine is selected, the connection is assigned to one of the physical machines that is bound to the virtual machine using a load balancing scheme such as is described in [Load Balancing Application]. Some of the load balancing schemes used may include distributing new connections to the physical machine with the fewest connections, to the physical machine with the fastest measured response time, or the a physical machine chosen in a round robin or*

weighted round robin fashion" (Howes, col.10, lines 37-45). In addition, Howes discloses, *"if the destination IP address and port do not match a virtual machine then control is transferred to a step 516 and the connection is assigned to a virtual machine with a Bind ID of 0. Also, if in step 510, the source IP address does not match one or more Bind ID objects, then control is also transferred to step 516 and the connection is assigned to a virtual machine with a Bind ID of 0... Thus, it has been shown that a new connection may be assigned to a specific instance of a virtual machine based on the assignment of that virtual machine to certain Client IP address"* (Howes, col.10, lines 50-61). Hence, Howes teaches of assigning an incoming connection request based on the client machine's IP address.

Conclusion

11. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas Duong whose telephone number is 571/272-3911. The examiner can normally be reached on M-F 7:30AM - 4:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason D. Cardone can be reached on 571/272-3933. The fax phone numbers for the organization where this application or proceeding is assigned are 571/273-8300 for regular communications and 571/273-8300 for After Final communications.

Thomas Duong (AU2145)

March 17, 2007

Jason D. Cardone

Supervisory PE (AU2145)